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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,233	12/19/2000	Frank L. Berry	219.38575X00	4418

7590 06/22/2004

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EXAMINER
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KENNEDY, LESA M

ART UNIT	PAPER NUMBER
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2151

DATE MAILED: 06/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/739,233

**Applicant(s)**

BERRY, FRANK L.

**Examiner**

Lesa Kennedy

**Art Unit**

2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-30 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Remarks***

1. This action is responsive to the Response to Office Action filed on May 13, 2004.  
Claims 1-30 are pending examination. Claims 1-30 are directed towards the use and arrangement of a translation and protection table.

### ***Response to Arguments***

2. Applicant's arguments (see pages 6-8 of the Response to Office Action filed on May 13, 2004) with respect to claim 1 have been fully considered but they are not persuasive.

Applicant argues (see page 7) that the Garcia reference does not disclose that a region entry may "... correspond to a specific region with the TPT table ...". However Garcia teaches this feature. Garcia discloses that the Memory Handle (region) entry has (i) a TPT start field indicating the beginning address of TPT entries in a region, and (ii) a TPT extent field indicating the number of pages (entries) in the region (see Fig. 6; col. 4, lines 46-55). Therefore each Memory Handle (region) entry does correspond to a specific region in the TPT table.

Applicant also argues (see page 7) that the specification teaches "...each region entry is followed by at least one translation entry...". However, the applicant does not provide a definition in the specification stating that region and translation entries must reside in a single table. On page 11, lines 15-16, the applicant's specification discloses a TPT comprising two

types of tables which correspond to two types of entries – translation entries and region entries. The Garcia reference also provides two types of tables with two types of entries – a MH table with region entries and a TPT with translation entries. The applicant's specification only discloses an example embodiment (page 11, lines 12-13) in which these two tables are imbedded within a single table, in which "each region entry is followed by at least one translation entry". It is not defined or required that the two tables (i.e. region entries and translation entries) be in a single table.

Applicant's arguments against the Garcia reference are therefore not persuasive, and the 35 U.S.C 103(a) rejection of Avery in view of Garcia stands.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avery (U.S. Pub. No. 2004/0015622 in view of Garcia et al. (U.S. Patent No. 6,163,834).

Avery teaches the invention substantially as claimed including a method and apparatus for implementing speculative prefetching during DMA reads in a message-passing, queue-oriented bus system (see abstract).

As to claim 1, Avery teaches a host comprising:  
a processor (Fig. 3, item 302),  
a host memory coupled to said processor (Fig. 3, item 306); and  
a host-fabric adapter coupled to said processor (Fig. 3, item 308) and provided to interface with a switched fabric (Fig. 3, item 318), including one or more fabric-attached I/O controllers (Fig. 3, item 324; par. 0032; Avery discloses that one or more target channel adapters are connected to the switch fabric), the host-fabric adapter including logic for accessing a translation and protection table from said host memory for a data transaction, said translation and protection table including a plurality of translation entries (par.0031; Avery discloses that a host channel adapter (host-fabric adapter) uses a translation and protection table for translating virtual addresses to physical addresses, and validating access to host memory).

However, Avery fails to teach the limitation of said translation and protection table including at least one region entry, said at least one region entry comprising multiple levels of translation entries.

However, Garcia teaches a two-level memory region registration and address translation system and method, including a memory handle table and a translation and protection table (TPT) (see abstract). Garcia teaches the limitation of a translation and protection table including a plurality of translation entries and at least one region entry, said at least one region entry comprising multiple levels of translation entries (col. 4, lines 17-19; Garcia discloses that each entry in the Memory Handle table (i.e. region entry) corresponds to a plurality of entries in the TPT).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Avery in view of Garcia by expanding the address translation concept to support regions. One would be motivated to do so to avoid duplication of translation operations.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lesa Kennedy whose telephone number is (703) 305-8865. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

Art Unit: 2151

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Lesa Kennedy  
Art Unit 2151

Andrew Caldwell  
Andrew Caldwell